



Astrophysics Colloquium by Tim Kallman (Goddard)

The Gravity and Extreme Magnetism Small Explorer Mission (GEMS)

When	May 17, 2012 from 04:15 PM to 05:15 PM
Where	CAMPUS: Phys & Astrophys Bldg., 1st fl., conf rm (102/103)
Contact Name	Justin Vandenbroucke
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Polarization is an inherently geometric quantity and provides information on source geometry inaccessible via spectroscopy or timing. To date, there have been reliable detections of X-ray polarization from only one object outside the solar system (the Crab nebula). Recent development of photoelectric polarimetry makes it possible to perform sensitive X-ray polarimetry with a modest mission. GEMS was selected by NASA to be the 13th Small Explorer mission with launch planned for 2014. GEMS will be ~ 100 times more sensitive than any previously flown X-ray polarimeter and will provide useful polarization measurements for dozens of cosmic X-ray sources. GEMS will lead to new insights into the nature of accreting black holes, magnetized neutron stars, and supernova remnants. In this talk I will review the science motivation for GEMS and describe the status of the mission implementation.